

Endoscopic ultrasound-guided treatment of splenic artery pseudoaneurysm and pancreatic pseudocyst

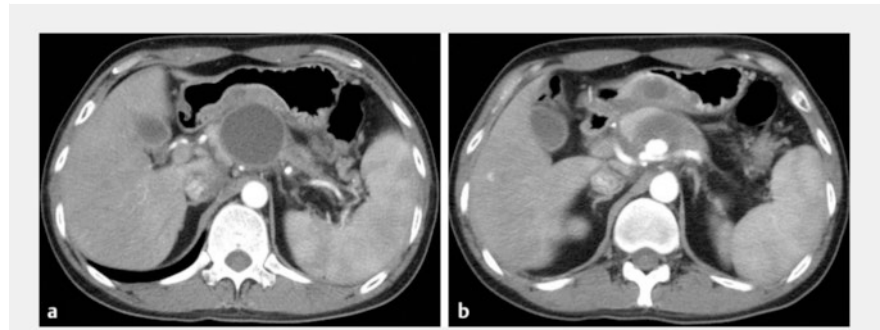


A 37-year-old man with a 1-year history of intermittent abdominal pain was transferred to our hospital. Contrast-enhanced computed tomography (CT) revealed features of chronic pancreatitis, including diffuse pancreatic calcifications, dilation of the pancreatic duct, and a pancreatic pseudocyst (PPC). Additionally, a splenic artery pseudoaneurysm (PsA) was identified inside the pseudocyst (► Fig. 1).

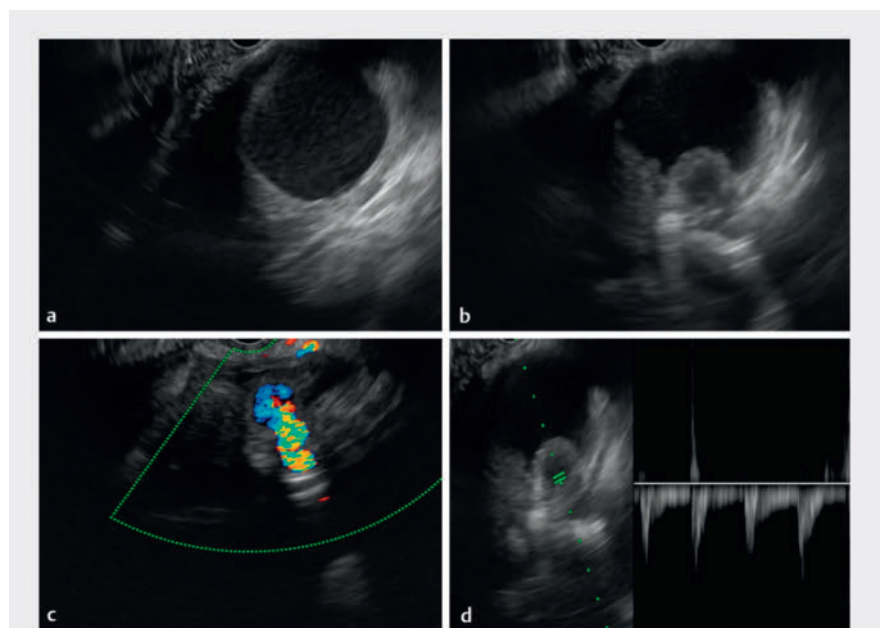
Endoscopic ultrasound (EUS) revealed a well-defined PsA, measuring 1.3 cm × 1.2 cm, arising from the splenic artery and located within a PPC. Doppler imaging demonstrated active arterial flow with a characteristic “to-and-fro” waveform (► Fig. 2). The PPC measured approximately 5 cm in diameter and was situated posterior to the gastric fundus. We first punctured into the PPC using a 19-G biopsy needle and aspirated 50 mL of dark brown fluid (► Fig. 3). Subsequently, the needle was exchanged for a 22-G biopsy needle (G31521, Cook Medical, USA), through this access, a 10 mm × 10 mm Tornado embolization microcoil was deployed, followed by injection of a mixture consisting of 1 mL cyanoacrylate glue and 1 mL distilled water, achieving complete PsA occlusion (► Fig. 4, ► Video 1). Subsequently, the 19-G biopsy needle was reinserted to place a guidewire. Then, the gastric and cyst walls were incised with a cystotome (CST-10, Cook Medical, Ireland), and a 7-Fr double-pig-tail nasocystic drainage catheter (PBD-V813W-07, Olympus, Japan) was positioned for continuous drainage.

The X-ray shows the drainage catheter is in the normal position. During postoperative follow-up, CT imaging demonstrated proper positioning of the coils within the PsA, without evidence of splenic infarction (► Fig. 5).

PPC and PsA are common complications of pancreatitis [1]. PsA is associated with a rupture risk of up to 40%. Upon rupture, it may lead to life-threatening



► Fig. 1 Contrast-enhanced computed tomography images showing: a Pancreatic pseudocyst; b A splenic artery pseudoaneurysm inside the pseudocyst.



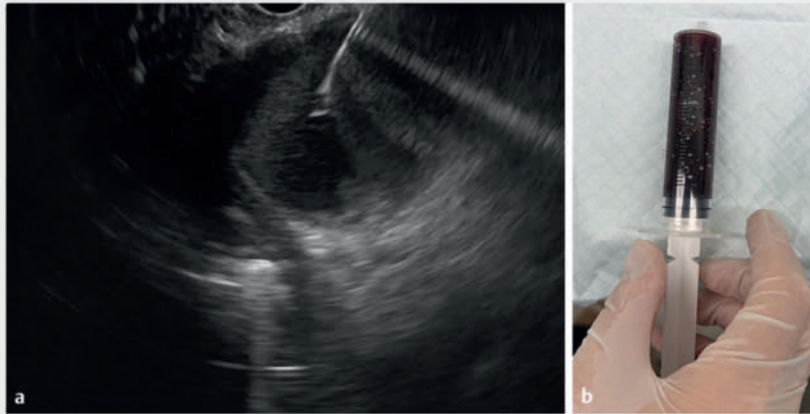
► Fig. 2 The PPC measured approximately 5 cm in diameter. Endoscopic ultrasound images showing a 1.3 cm × 1.2 cm splenic artery pseudoaneurysm from the splenic artery with a characteristic “to-and-fro” waveform on Doppler.

hemorrhage, with mortality rates reaching as high as 90% [2]. This case provides a more effective and efficient treatment option for patients with concomitant PPC and PsA.

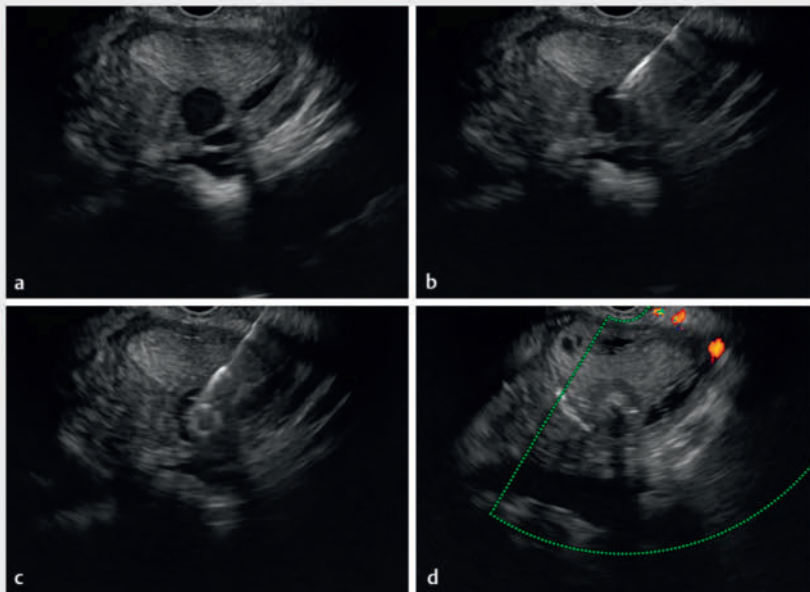
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Contributors' Statement

Fengxin Wang: Data curation, Formal analysis, Methodology, Visualization, Writing – original draft. Baobao Wang: Data curation, Formal analysis, Methodology, Visualization, Writing – original draft. Zhenjun Wang: Data curation, Project administration, Writing – original draft, Writing – review & editing.



► **Fig. 3** **a** Puncture into the pancreatic pseudocyst using a 19-G biopsy needle; **b** Aspirate 50 mL of dark brown fluid.



► **Fig. 4** EUS-guided treatment of a splenic artery pseudoaneurysm: **a** A splenic artery pseudoaneurysm; **b** Replace with a 22-G biopsy needle; **c** Injection of cyanoacrylate glue into the pseudoaneurysm; **d** Complete embolization of the pseudoaneurysm.

Guan-Jun Kou: Data curation, Project administration, Writing – original draft, Writing – review & editing. Ning Zhong: Project administration, Resources, Writing – review & editing.


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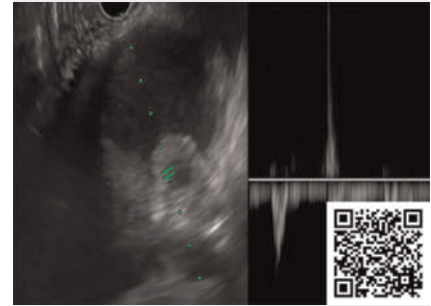
Conflict of Interest

The authors declare that they have no conflict of interest.

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► **Video 1** EUS-guided treatment of splenic artery pseudoaneurysm and pancreatic pseudocyst.

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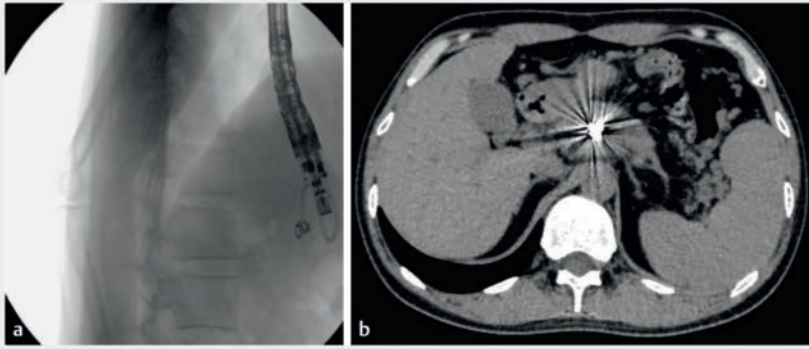
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► **Fig. 5** **a** Double-pigtail nasocystic drainage catheter in the correct position; **b** Computed tomography imaging demonstrated proper positioning of the coils within the PsA, without evidence of splenic infarction.

Bibliography

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